Installation Instructions

Original Instructions

Allen-Bradley
by ROCKWELL AUTOMATION

Four-circuit Direct Opening Action Limit Switch

Bulletin Number 802T

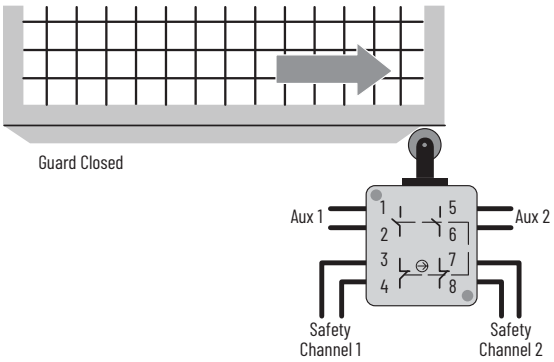
ATTENTION: To avoid electrical shock and unintended operation of equipment, disconnect all power to the limit switch and the controlled equipment before proceeding with any repair or adjustment of the limit switch.

Overview

Bulletin 802T Direct Opening Action limit switches have been designed for use in applications that require control-reliability performance per ANSI B11.19 and in safety applications.

Limit switches are used in electrical control systems to sense position. The predetermined motion of a cam, machine component, or piece part actuates the switch. These limit switches are suitable for use in control systems that require control-reliability performance or safety-related performance per ISO 13849-1.

Figure 1 - Typical Example of a Dual Channel Safety Application



Before installation in a safety application, perform a risk assessment to determine whether the specifications of this device are suitable for foreseeable operational and environmental characteristics of the machine that is to be controlled. Only the normally closed set of contacts are considered safety contacts. When applying these limit switches in a safety system application, all applicable standards for application should be followed. Follow the operating specifications and be sure that the actuator is displaced beyond the point where Direct Opening Action occurs. These devices are not to be used for direct control of a motor.

ATTENTION: Do not use adjustable length lever actuators in a safety system applications.

Specifications

Attribute	Value
Safety contacts	2 N.C.
Auxiliary contacts	2 N.O.
Enclosure rating	NEMA 4, 6P, 12, and 13; IP67
Operating rate and speed (1)	• Lever type: 150/minute @ 9 m (30 ft)/minute (2) • Top push roller: 150/minute @ 9 m (30 ft)/minute (3) • Side push roller: 150/minute @ 9 m (30 ft)/minute (3)
Operating temperature (standard models)	18...110°C (0...230°F)
Short circuit protection	10 A slow or 15 A fast acting. Size overload protection to the load requirements.

(1) Based on operation temperatures of 20...30 °C (68...86 °F).
(2) Using 802T-W1A operating lever.
(3) Using 30° non-overtravel dog.

Mount the Switch

Limit switches must be securely mounted with the mounting holes provided. During installation, confirm that the actuator is displaced beyond the point where Direct Opening Action takes place. Do not use adjustable levers or rod actuators in safety system applications.

Description	Tightening Torque [N•m (lb•in)]
Terminal screws	2.03 (18)
Front to rear base	1.81...2.26 (16...20)
Head screws	1.35...2.03 (12...18)
Lever arm	2.82...4.07 (25...36)

Wiring

IMPORTANT The contacts in each switching element must have the same polarity. The circuit diagram is shown on the nameplate.

The pressure type connector terminals in the base accepts 3.31 mm^2 (12 AWG) and smaller solid or stranded wire. For proper tightening, we suggest not using anything smaller than 0.823 mm^2 (18 AWG) wire. Before your insert the wire under the pressure plates, strip the insulation approximately 9.52 mm (3/8 in.). To avoid interference with the switch cover, tighten all pressure plate terminals whether used or not.

After wiring is complete, verify that all wires are in the wiring cavity of the terminal block so they do not interfere with the switch when it is plugged into the terminal block. Recheck all wiring terminal screws for tightness.

IMPORTANT For switches that are wired at the factory, check wire color and their position in the terminal block for proper circuit connection.

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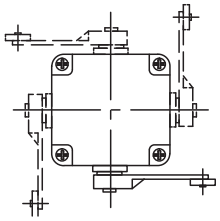
- Grounding of switch should be achieved per National Electric Code (NFPA 70) requirements. Grounding terminal is located in the terminal block housing.
- Arrange control wiring according to terminal markings.
- Tighten terminal screws according to specifications.
- Only use insulated connectors.

IMPORTANT Pay close attention to the terminal numbers on the terminal block when wiring this switch.
- Terminals 1 and 2 or 5 and 6 are normally open (N.O.) contacts.
- Terminals 3 and 4 or 7 and 8 are normally closed (N.C.) contacts.

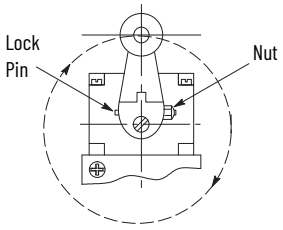
Actuator Head Position

The actuator head can be placed in any of four positions on the switch body. Loosen the four captive screws. Place the head in the desired position and securely retighten the four screws.



Lever Position

The lever on rotary actuated devices is adjustable to any position through 360° around the shaft. Loosen the nut, move the lever to the desired position, and securely retighten the nut.



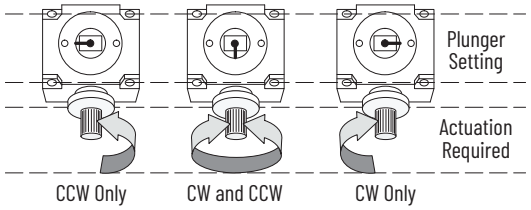
Change Direction of Actuation

The switch action of lever operated limit switches can be adjusted to operate in either a clockwise, a counterclockwise, or both directions movement of the shaft.

To change the actuation direction, follow these steps:

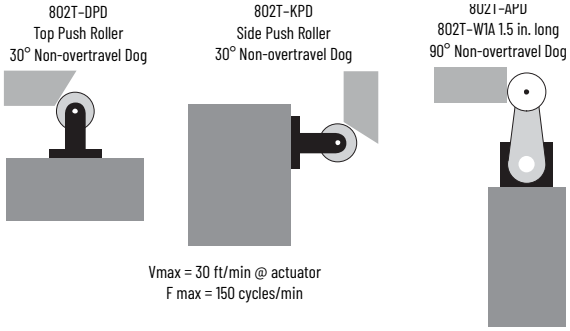
IMPORTANT This procedure must be performed in a clean environment to avoid the introduction of foreign material into the operating mechanism.

1. Loosen the four head mounting screws and remove the operating head from the switch body.
2. Locate the plunger on the underside of the operating head.
3. Pull the plunger outward and rotate it in steps of 90° to provide the operating mode desired. The respective settings are as follows:



4. Verify that the plunger is pushed back inward and the O-ring is properly seated before the operating head is reattached to the switch body.
5. Securely retighten the operating head mounting screws.
6. Check for the desired actuation mode.

Methods of Actuation Examples



Waste Electrical and Electronic Equipment (WEEE)

At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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PN-462117

Publication 802T-IN004B-EN-P - March 2021 | Supersedes Publication 802T-IN004A-EN-P - September 2002 PN-462117